

# **Tennessee Gas Pipeline Co, L.L.C. Northeast Energy Direct Project**

Massachusetts Land Trust Coalition  
June 25, 2014

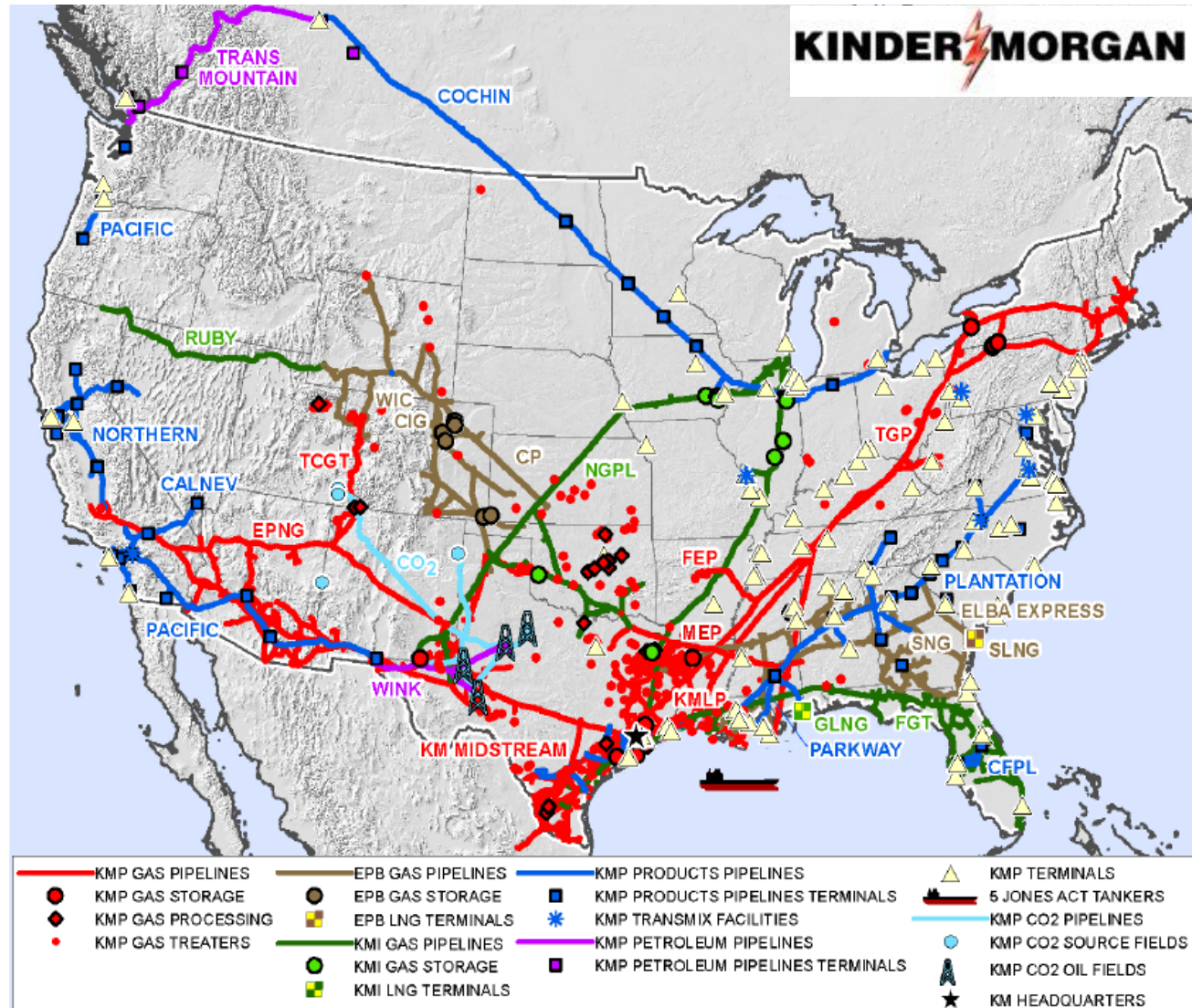


# Kinder Morgan Assets

- 3rd largest energy company in North America with combined enterprise value of approximately \$110 billion <sup>(a)</sup>
- Largest natural gas network in North America
  - Own an interest in / operate ~68,000 miles of natural gas pipeline
  - Connected to every important U.S. natural gas resource play, including: Eagle Ford, Marcellus, Utica, Uinta, Haynesville, Fayetteville and Barnett
- Largest independent transporter of petroleum products in North America
  - Transport ~2.3 MMBbl/d <sup>(b)</sup>
- Largest transporter of CO<sub>2</sub> in North America
  - Transport ~1.3 Bcf/d of CO<sub>2</sub> <sup>(b)</sup>
- Largest independent terminal operator in North America
  - Own an interest in or operate ~180 liquids / dry bulk terminals
  - ~125 MMBbls domestic liquids capacity
  - Handle ~103 MMtons of dry bulk products <sup>(b)</sup>
- Only Oilsands pipe serving West Coast
  - Transports ~300 MBbl/d to Vancouver / Washington State; proposed expansion takes capacity to 890 MBbl/d

(a) Combined enterprise value of KMI, KMP & EPB; see footnotes on slide 9 for further information.

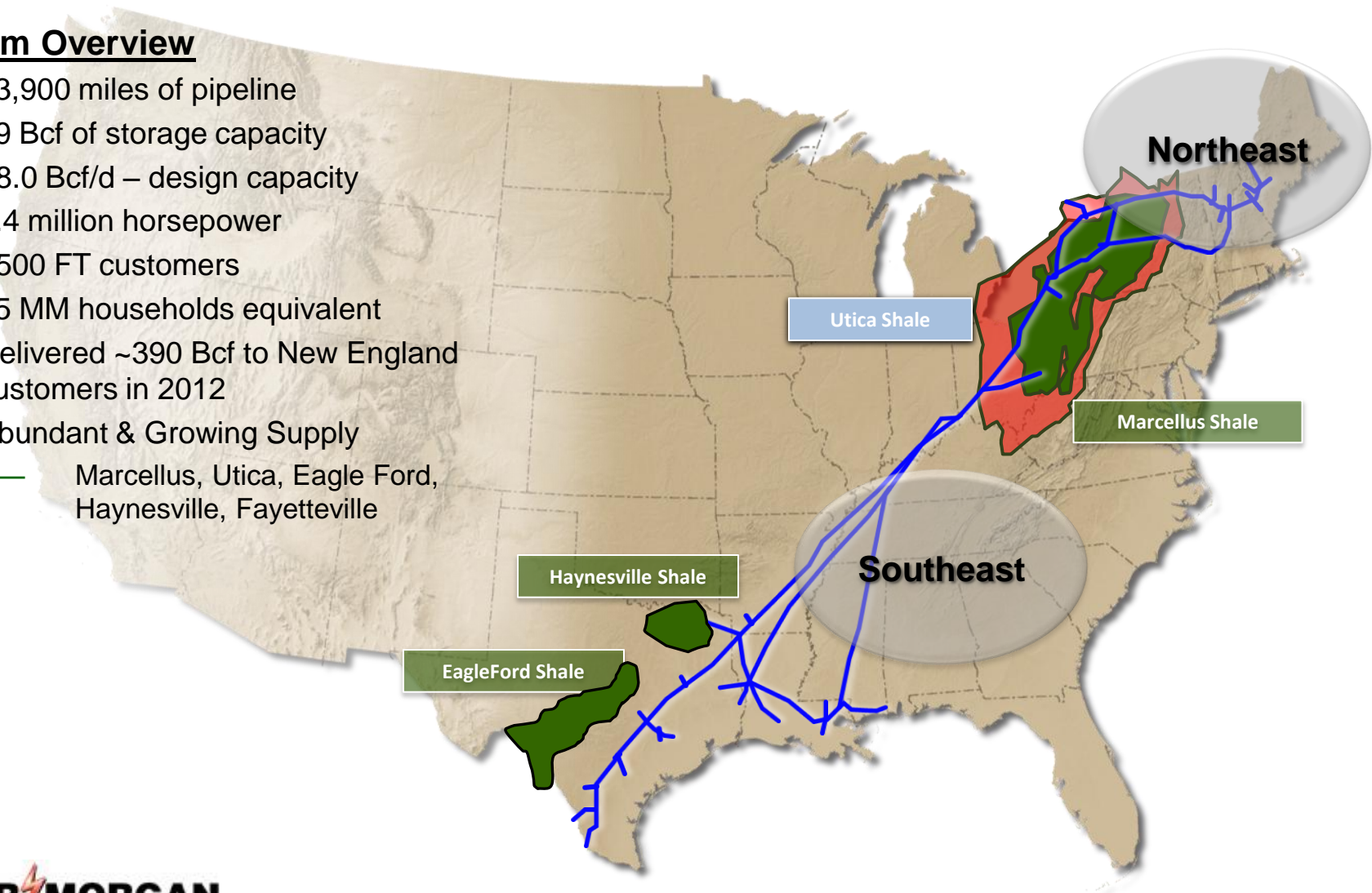
(b) 2014 budgeted volumes.



# Tennessee Gas Pipeline

## System Overview

- 13,900 miles of pipeline
- 79 Bcf of storage capacity
- ~8.0 Bcf/d – design capacity
- 1.4 million horsepower
- >500 FT customers
- 35 MM households equivalent
- Delivered ~390 Bcf to New England customers in 2012
- Abundant & Growing Supply
  - Marcellus, Utica, Eagle Ford, Haynesville, Fayetteville

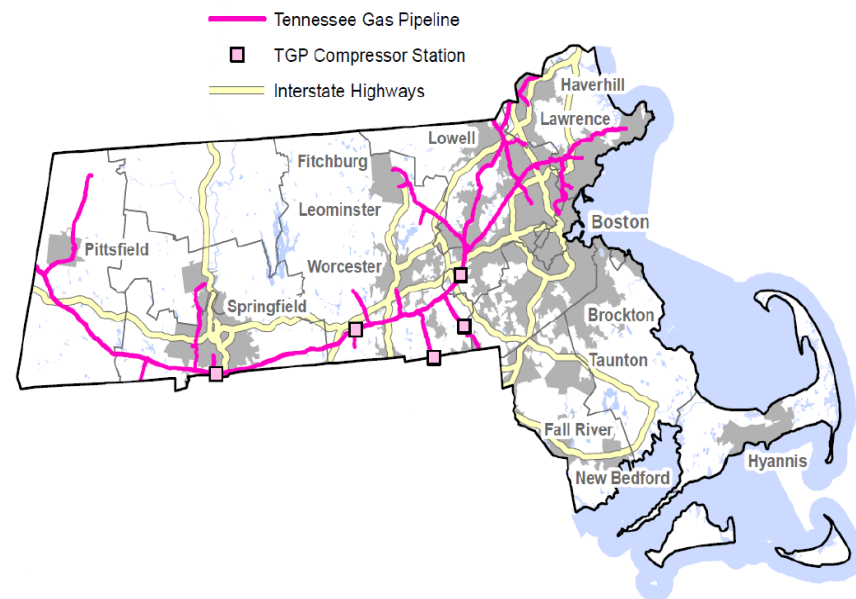




# Kinder Morgan in Massachusetts

## In Massachusetts,

- Kinder Morgan employed **46 people** in 2013
- Kinder Morgan's total 2013 payroll was **\$3.6 million**
- In 2013, Kinder Morgan paid approximately **\$5.85 million** to state and local taxing bodies.
- Kinder Morgan operates approximately **600 miles** of pipeline
  - Kinder Morgan operates approximately **half** of Massachusetts **1,125 miles** of natural gas transmission pipelines.



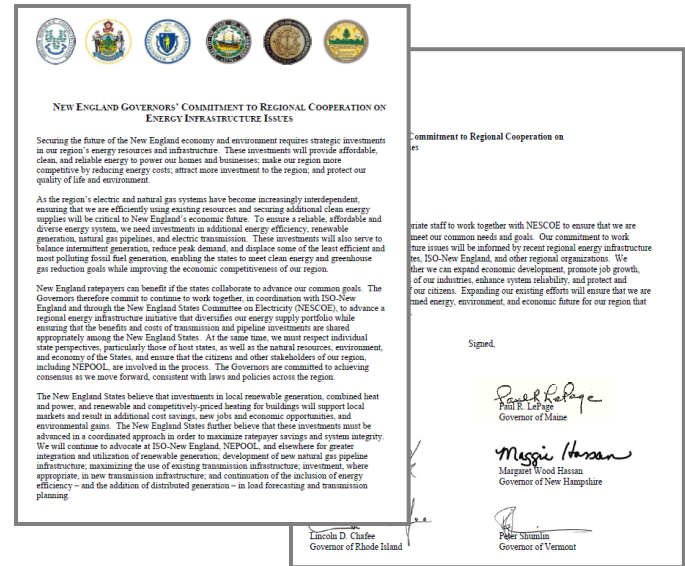
Kinder Morgan operates assets in eight counties throughout Massachusetts: Berkshire, Essex, Hampden, Hampshire, Middlesex, Norfolk, Suffolk and Worcester

# The Need for NED

**Unprecedented** gas capacity constraints on existing pipelines (Source: ISO-NE, EIA.gov)

**Highest** and most volatile gas commodity costs in the nation (Source: ISO-NE, EIA.gov)

In Dec. 2013, New England Governors issued a letter calling attention to the shortage of energy infrastructure, and advocated for *“investments in additional energy efficiency, renewable generation, natural gas pipelines, and electric transmission” to ensure reliable, low-cost energy and continued economic growth in New England.*



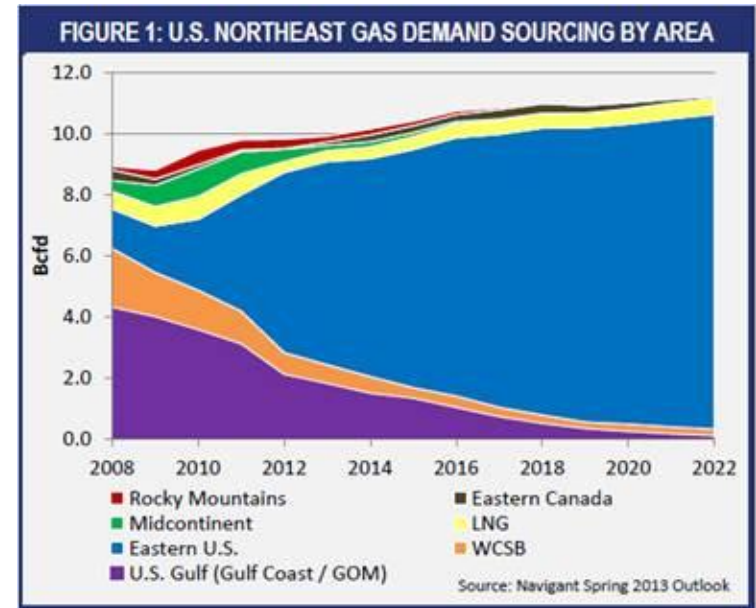
# The Need for NED

## New England's Gas Needs:

- In 2013, New England relied on natural gas for **52%** of its electricity produced, more than any other source. (Source: ISO-NE)
- In 2012, the Northeast region received **60%** of its gas supply from Eastern US sources, mainly shale formations. (Source: Navigant North American Natural Gas Market Outlook, Spring 2013)

## The energy situation is likely to worsen if no new capacity is constructed;

- **Four** large New England coal, oil and nuclear power plants are planning to retire in the next few years due to increasing operating costs and new emissions standards. (Source: ISO-NE, 2013)
- Unless new capacity is provided, New England's power system will be increasingly vulnerable to electric service disruptions and consumer prices will increase greatly. The region will be at a **large economic and competitive disadvantage** to neighboring states and regions due to high energy costs. (Source: New England States Committee on Electricity, 2014)



# Northeast Energy Direct Project Overview

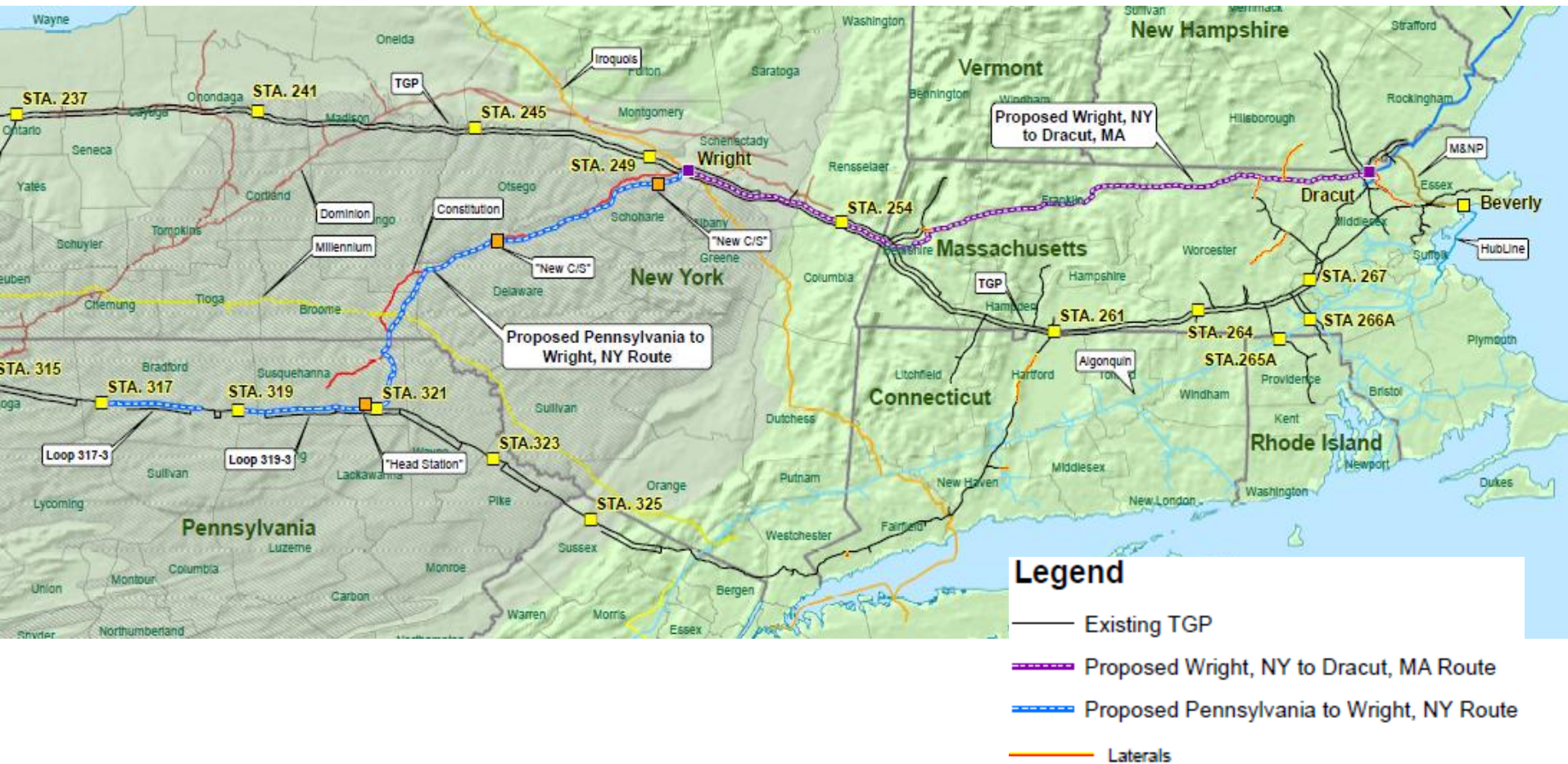
- The Northeast Energy Direct Project will expand the existing Tennessee Gas Pipeline system within Pennsylvania, New York, Massachusetts, New Hampshire and Connecticut.
- The project, as currently configured, would result in the construction of approx. 418 miles of new pipeline, additional meter stations, compressor stations and modifications to existing facilities.
- The expansion will help meet increased demand in the U.S. Northeast for transportation capacity for natural gas.
- Following completion, the proposed project could bring an estimated increased capacity of up to 2.2 Bcf/d to the Northeast, which is equivalent to an additional 1.5MM households.
- Pending receipt of necessary regulatory approvals, the proposed project is estimated to be placed in-service by November 2018.
- The project is estimated to generate an additional \$25M to local taxing bodies in MA.

## Estimated Project Schedule

Action	Timing
Outreach Meetings	Ongoing
Route Selection and Permit Preparation	Ongoing
Agency Consultations	Ongoing
File for FERC pre-filing	September 2014
KM Open Houses	November – December 2014
FERC Scoping Meetings	January – February 2015
FERC filing	Sept. 2015
Anticipated FERC approval	October 2016
Proposed Start of Construction Activity	January 2017
Proposed In-Service	November 2018



# Proposed Northeast Energy Direct Route



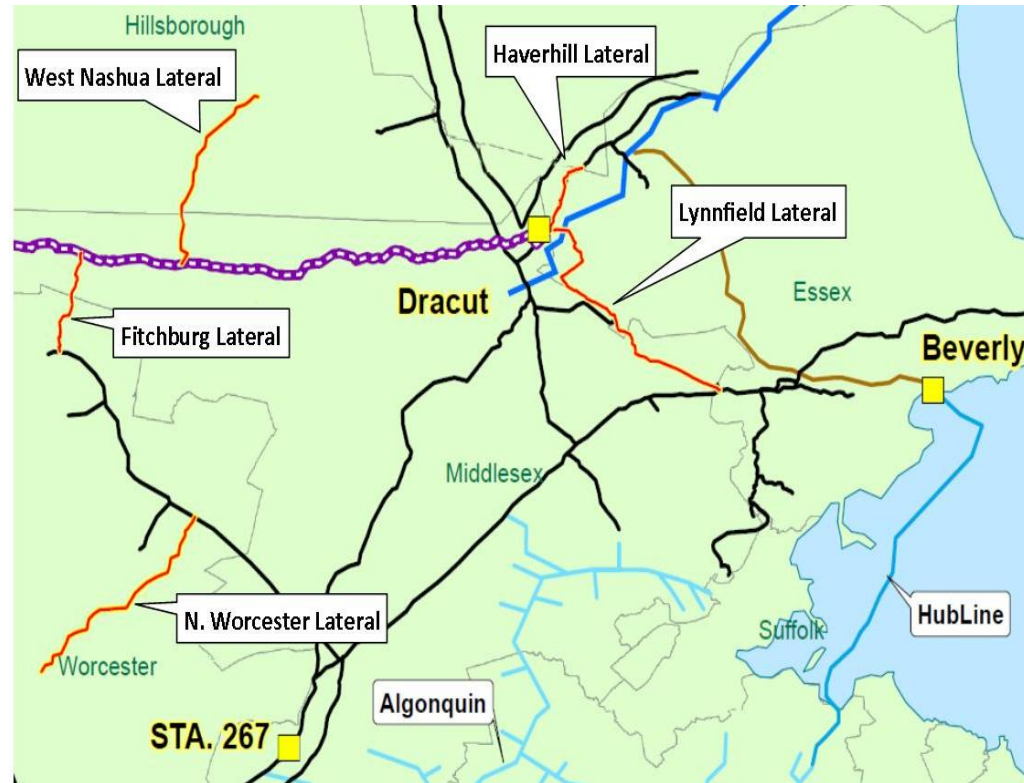
*\*Any final route determination is subject to surveying, land acquisition and easements, environmental impact assessments, permitting and stakeholder input.*



# Northeast Energy Direct Components

## Proposed project components:

- **Pennsylvania to Wright, NY**
- **Wright, NY to Dracut, MA**
- West Nashua Lateral (MA/NH)
- N. Worcester Lateral (MA)
- Pittsfield Lateral (MA)
- Stamford Delivery Loop (CT)
- Wallingford Delivery Loop (CT)
- Fitchburg Lateral Extension (MA)
- Haverhill Lateral (MA)
- Lynnfield Lateral (MA)
- 300 Line CT Lateral (CT)



# Regulatory Oversight

Federal, state and local agencies will have extensive regulatory authority over the proposed project. Some of these include:

## Federal

- Federal Energy Regulatory Commission
- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Department of Agriculture
- U.S. Department of the Interior

## State

- Massachusetts State Legislature
- Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA)
  - Dept. of Public Utilities
  - Dept. of Fish and Game
  - Dept. of Environmental Protection
  - Dept. of Agricultural Resources
  - Office of Coastal Zone Management
- MA Energy Facilities Siting and Licensing Board

- MA Historical Commission

## Local

- MA Town Conservation Commissions



# Preliminary Northeast Energy Direct Town List (MA)

## **Berkshire County**

- Dalton, MA
- Hinsdale, MA
- Lenox, MA
- Peru, MA
- Pittsfield, MA
- Richmond, MA
- Washington, MA
- Windsor, MA

## **Essex County**

- Andover, MA
- Lynnfield, MA
- Methuen, MA

## **Franklin County**

- Ashfield, MA
- Conway, MA
- Deerfield, MA
- Erving, MA

- Montague, MA
- Northfield, MA
- Orange, MA
- Shelburne, MA
- Warwick, MA

## **Hampshire County**

- Plainfield, MA

## **Middlesex County**

- Ashby, MA
- Dracut, MA
- Dunstable, MA
- Groton, MA
- North Reading, MA
- Pepperell, MA
- Reading, MA
- Tewksbury, MA
- Townsend, MA
- Tyngsborough, MA

- Wilmington, MA

## **Worcester County**

- Ashburnham, MA
- Athol, MA
- Berlin, MA
- Bolton, MA
- Boylston, MA
- Gardner, MA
- Lunenburg, MA
- Northborough, MA
- Royalston, MA
- Shrewsbury, MA
- West Boylston, MA
- Winchendon, MA



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# Public Affairs



# Massachusetts Outreach

## Project Briefings:

- Governor Deval Patrick
- Office of U.S. Senator Elizabeth Warren
- Office of U.S. Senator Ed Markey
- Office of Congressman Jim McGovern
- Office of Congressman John Tierney
- Office of Congresswoman Niki Tsongas
- Office of Congressman Richard Neal
- Office of Congressman Joe Kennedy
- Office of Congresswoman Katherine Clark
- Senator Benjamin Downing
- State Senate Majority Leader Stan Rosenberg
- Senator Stephen Brewer
- Senator Barry Finegold
- Senator Eileen Donoghue
- Senator Hariette Chandler
- Senator Jennifer Flanagan
- State House Speaker Robert DeLeo
- State Representative Stephen Kulik
- State Representative William Pignatelli
- State Representative Tricia Farley-Bouvier
- State House Minority Leader Bradley Jones
- State Representative Stephen DiNatale
- State Representative Colleen Garry
- State Representative Anne Gobi
- Office of Senator Bruce Tarr
- Office of Senator Michael Moore
- Department of Public Utilities
- Office of Energy and Environmental Affairs
- Department of Fish and Game
- Coastal Zone Management
- Department of Agricultural Resources
- Department of Energy Resources
- Department of Environmental Protection

## Town Contacts:

- Dalton
- Hinsdale
- Lenox
- Peru
- Pittsfield
- Richmond
- Washington
- Windsor
- Andover
- Lynnfield
- Methuen
- Ashfield
- Conway
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- Shrewsbury
- Winchendon
- Worcester



# Project Presentations to Date

- **April 7, 2014** : Montague (MA) Board of Selectmen
- **April 8, 2014**: Dracut (MA) Board of Selectmen
- **April 9, 2014**: Ashburnham (MA) Board of Selectmen
- **April 21, 2014**: Hollis (NH) Public Meeting
- **April 22, 2014**: Plainfield (MA) Board of Selectmen
- **April 23, 2014**: Ashby (MA) Board of Selectmen
- **May 12, 2014**: Pepperell (MA) Board of Selectmen
- **May 13, 2014**: Warwick (MA) Public Meeting
- **May 14, 2014**: Tyngsborough (MA) Board of Selectmen
- **June 4, 2014**: Richmond (MA) Board of Selectmen
- **June 5, 2014**: North Reading (MA) Board of Selectmen
- **June 23, 2014**: Groton (MA) Board of Selectmen
- **June 24, 2014**: Tewksbury (MA) Board of Selectmen
- **June 25, 2014**: Bolton (MA) Board of Selectmen





# Land and Right-of-Way



# Land: Pipeline Colocation

Pipeline	Pipeline Co-located?		Total Miles	Percent Co-located
	No (miles)	Yes (miles)		
West Nashua Lateral	12.18	0	12.18	0.00%
N. Worcester Lateral	14.43	0	14.43	0.00%
Pittsfield Lateral	0.45	1.12	1.57	71.13%
Stamford Delivery loop*	1.11	0.84	1.95	43.11%
Fitchburg Lateral	5.20		5.20	0.00%
Wallingford Delivery Loop*	1.73	0.52	2.25	23.06%
Haverhill Loop*	0.63	4.16	4.79	86.80%
Dracut to 270C-100	11.08	5.51	16.59	33.23%
300 Line CT (Hartford Area)*	0	14.58	14.58	100.00%
MA Mainline*	85.88	43.17	129.04	33.45%
NY Mainline (Wright to Dracut)	3.52	46.60	50.12	92.98%
NY West (Troy to Wright)	24.71	70.26	94.97	73.98%
PA West (Troy to Wright)	19.25	3.31	22.56	14.67%
Loop 317-3 (PA)	0	22.95	22.95	100%
Loop 319-3 (PA)	0	28.06	28.06	100%
<b>Grand Total</b>	<b>180.16</b>	<b>241.08</b>	<b>421.24</b>	<b>57.23%</b>
Note: Colocation was noted for any mapped linear utilities				
Source: PowerMap (2013)				

\*Parallel existing TGP facilities

# Survey Process

- Civil, Environmental and Archeological
- Civil creates line of site survey, small crew, hand work, identifies centerline. Also HDD coring needed at select locations.
- Environmental identifies wetlands and Threatened and Endangered species (T&E), flags used to identify wetlands boundaries within 200' of C/L
- Environmental will complete archaeological desktop review, walk the project alignment, conducts shovel tests to determine if an identified site warrants additional testing.
- There may be additional follow up surveys required.



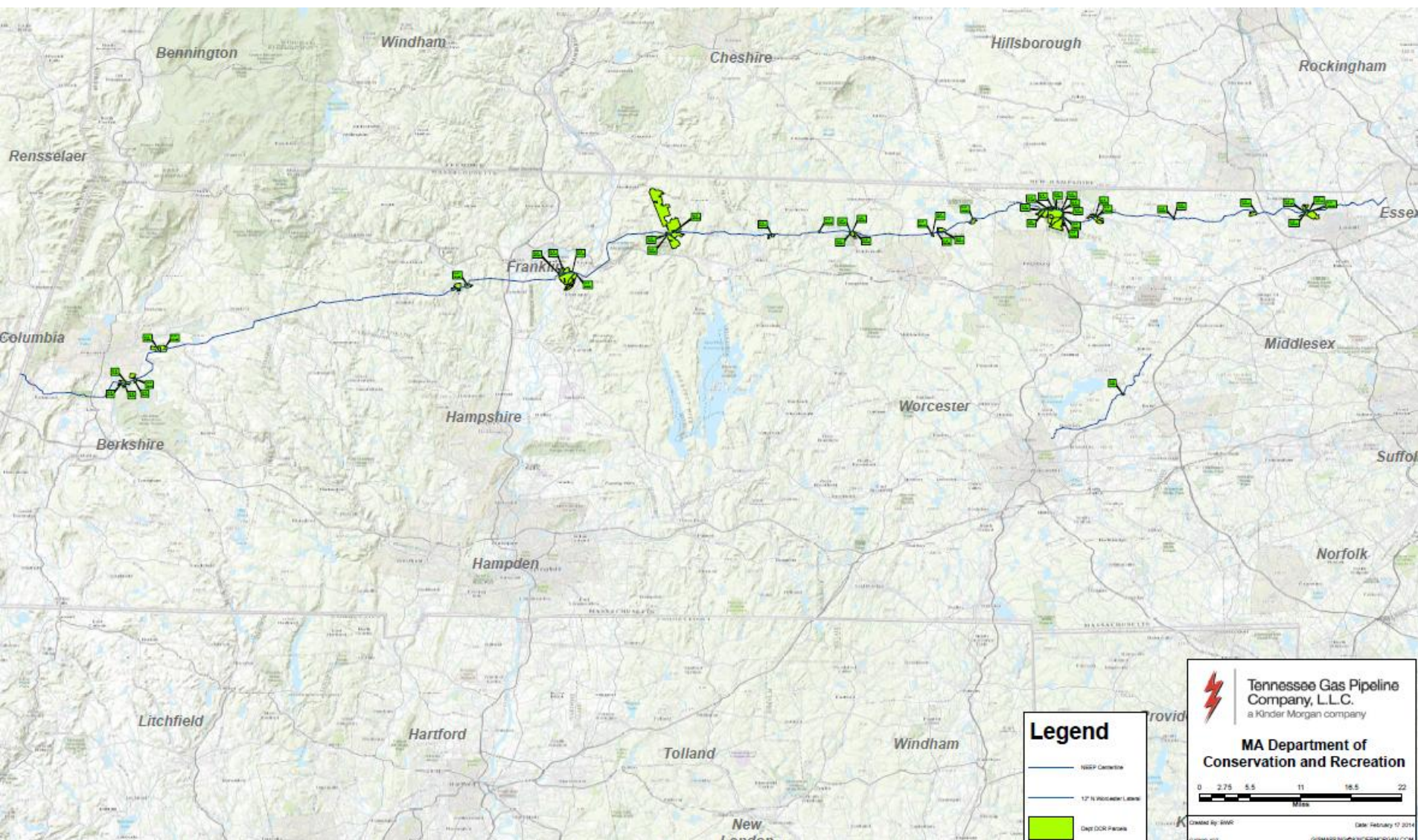
# Landowner Contact and Permission

- 1644 total landowners identified in Massachusetts
- Requested survey permission from 100% of landowners
- Survey permission granted from 799 landowners or 48.6%
- Survey permission has been requested across properties owned by the Commonwealth
- Department of Conservation and Recreation (DCR)
- Department of Fish and Wildlife (F&W)
- Office of Dam Safety – Worcester

# State Lands

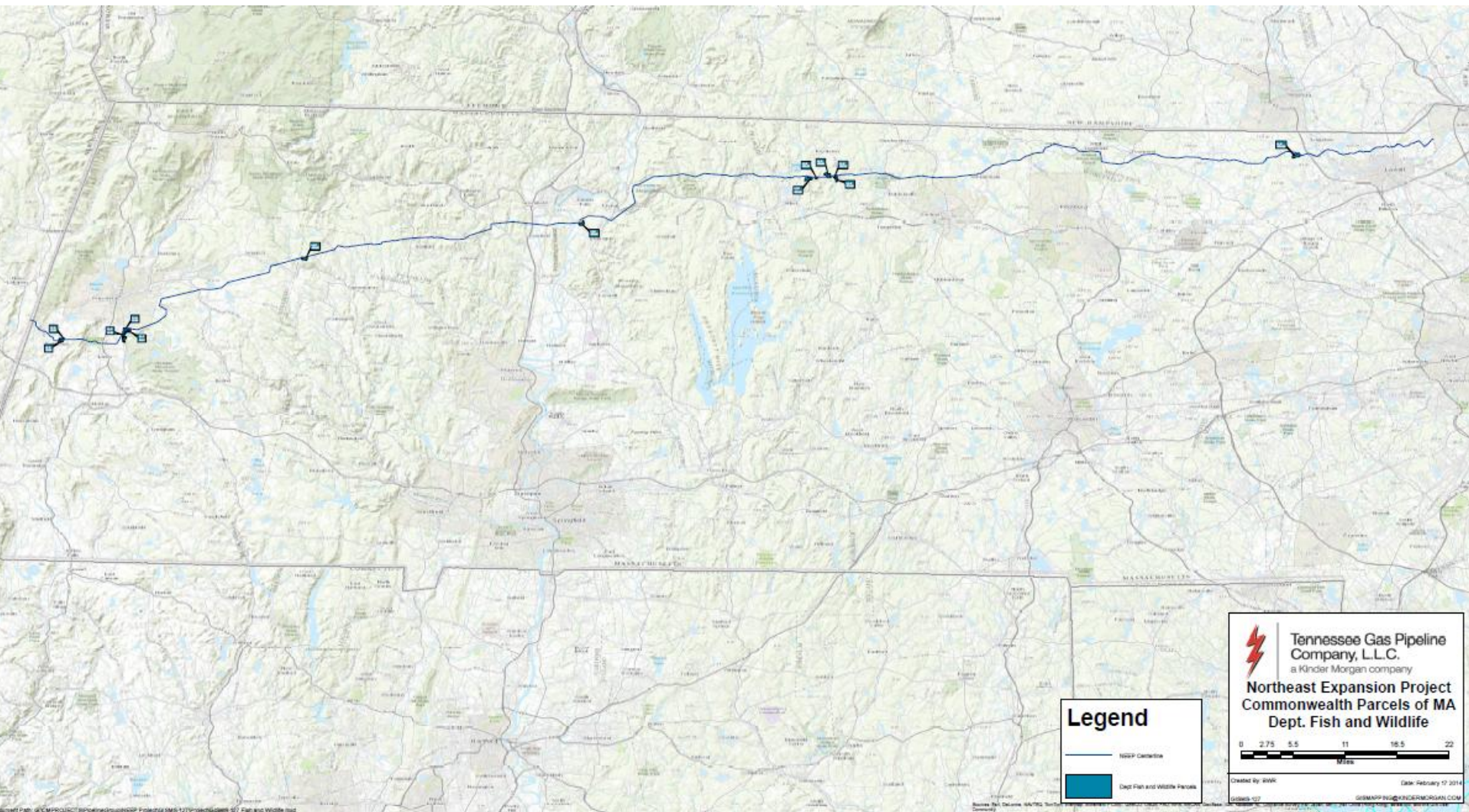
- Fisheries and Wildlife
- Conservation and Recreation
- Office of Dam Safety
- Total Land Crossed approx. 8.18 Miles

## DCR Lands





# Fish and Wildlife Lands





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# Environmental and Permitting



# Permit Identification

- Federal Energy Regulatory Commission 7(c) Certificate
- U.S. Army Corps of Engineers New York District NY, New England District MA, CT, NH Section 10 Rivers and Harbors Section 404 Clean Water Act
- U.S. Environmental Protection Agency Region 1 NPDES Stormwater Permits
- U.S. Fish and Wildlife Service Northeast Regional Office – NY, NE Field Offices Endangered Species Act Consultations
- U.S. Department of Agriculture – NY, MA, CT, NH NRCS Farmland Impacts Reviews
- U.S. Department of the Interior National Park Service - SF 299 Application for utility crossing on Federal Lands Wild & Scenic Rivers Clearance Appalachian Trail Plan Approval
- National Oceanic and Atmospheric Administration Fisheries Endangered Species Act Consultations
- U.S. Bureau of Land Management NEPA Review for impacts to Federal Lands
- Advisory Council on Historic Preservation National Historic Preservation Act
- Massachusetts State Legislature Article 97 Public Lands Acquisition Approvals
- Massachusetts Energy Facilities Siting and Licensing Board Certificate of Environmental Impact and Public Need
- Massachusetts Environmental Policy Act Certificate of Environmental Impact Report Authorizing Issuance of State Permits
- Massachusetts Department of Environmental Protection Waterways License Wetlands Protection Act Orders, Section 401 Water Quality Certification
- Massachusetts Coastal Zone Management Federal Consistency Concurrence of Coastal Zone Impacts
- Massachusetts Historical Commission Section 106 Structural and Archaeological Assessments
- Massachusetts Department of Agricultural Resources Prime Farmland Impacts Review
- Massachusetts Department of Fish and Game Division of Wildlife and Fisheries Endangered Species Act Consultation
- Massachusetts Town Conservation Commissions Wetlands Protection Act Orders of Condition
- New York Department of Environmental Conservation SPDES Stormwater Regulation Section 401 Water Quality Certification, Freshwater Wetlands Protection Endangered Species Act Consultation, Protection of Streams, Air Permitting
- New York Department of State Division of Coastal Resources Coastal Zone Consistency Assessment for Hudson River Crossing
- New York Office of Parks, Recreation and Historic Preservation Section 106 Structural and Archaeological Assessment, Section 14.09 Consultation.
- New York Department of Agriculture & Markets Agricultural Resource Impact Mitigation Measures
- New York County Soil and Water Conservation Districts Prime Farmland and Erosion and Sedimentation Control Permits
- New York Conservation Boards Region 4 Development, Management, and Protection of Natural Resource Review
- New Hampshire Energy Facilities Siting and Evaluation Committee Certificate of Site and Facility
- New Hampshire Department of Environmental Services Excavating and Dredging Wetlands, Section 401 Permits
- New Hampshire Department of Environmental Services Coastal Consistency Determination
- New Hampshire Fish and Game Department Endangered Species Act Consultation
- New Hampshire Division of Historical Resources Section 106 Structural and Archaeological Assessment
- New Hampshire Division of Forest and Lands Timber Notice of Intent to Cut
- New Hampshire Town Conservation Commissions Wetlands Protection Review of NHDES Excavating and Dredging Permits
- Connecticut Siting Council Notification and Consultation
- Connecticut Department of Energy and Environmental Protection Bureau of Natural Resources Endangered Species Act Consultation
- Bureau of Water Protection and Land Reuse's; Inland Water Resources Division 401 Water Quality Certification Stream Channel Encroachment Floodplain Management & Water Diversion
- Bureau of Materials Management & Compliance Assurance Hydrostatic Pressure Testing Wastewater Permit NPDES Stormwater and Dewatering from Construction Activities
- Connecticut Commission on Culture and Tourism; Historic Preservation and Museum Division; Connecticut Office of the State Archaeologist Section 106 Structural and Archaeological Assessment
- Connecticut Town Conservation Commissions Inland Wetland and Watercourse Regulations

# Permit Milestones

- Engage environmental consultant – June 2014
- Environmental field surveys begin – June 2014
- State agency consultations begin – Spring 2014
- File request to use FERC pre-filing – September 2014
- File draft RR 1 and 10 – October 2014
- File FERC Certificate Application– September 2015



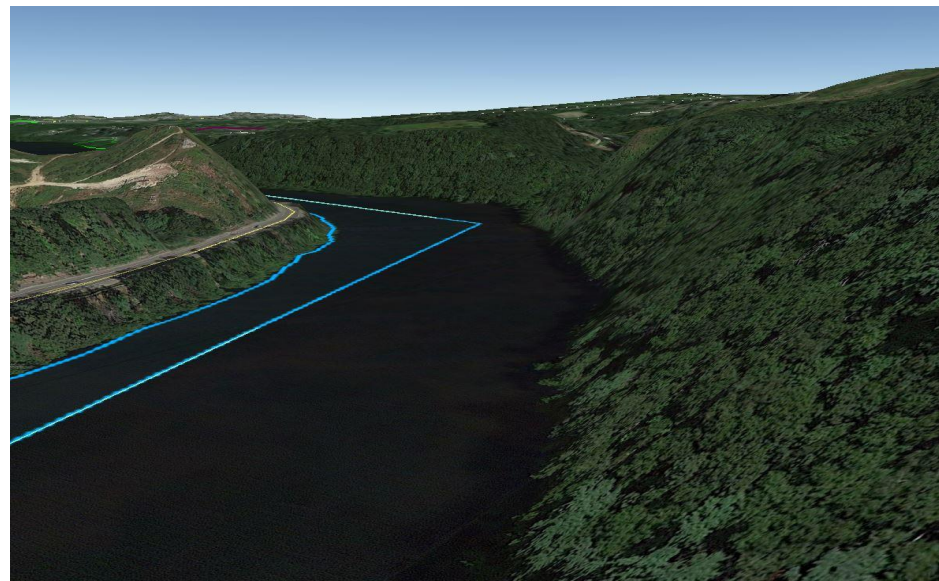
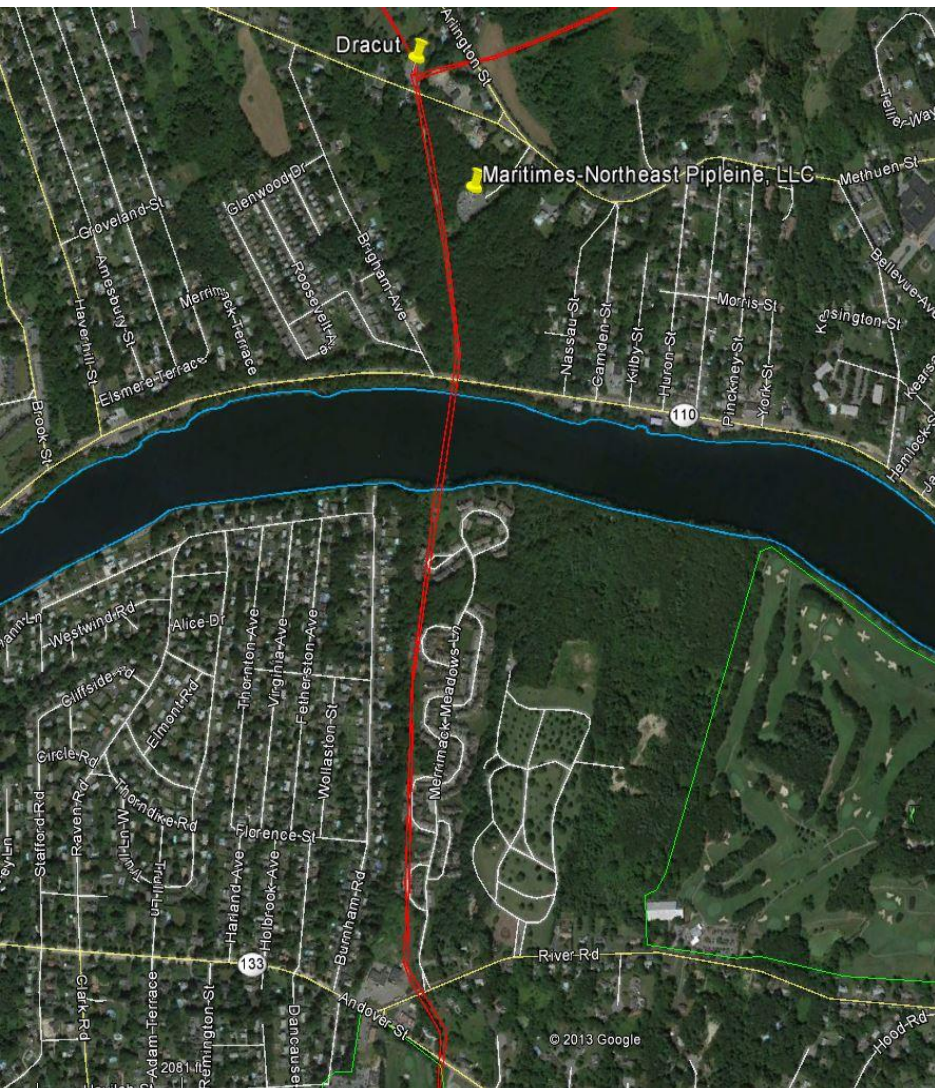
## Route Verification



- Avoiding 4 pristine river crossings

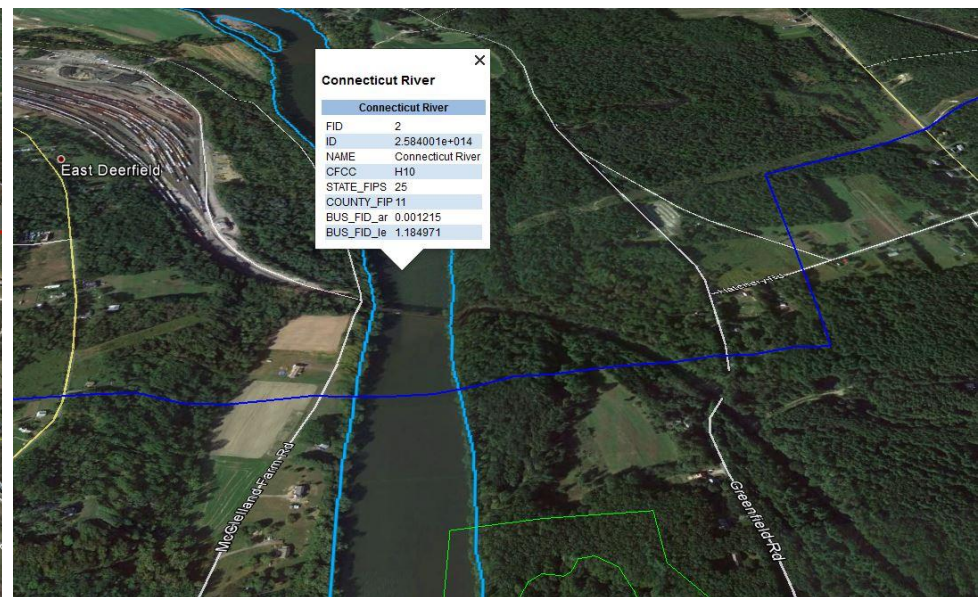
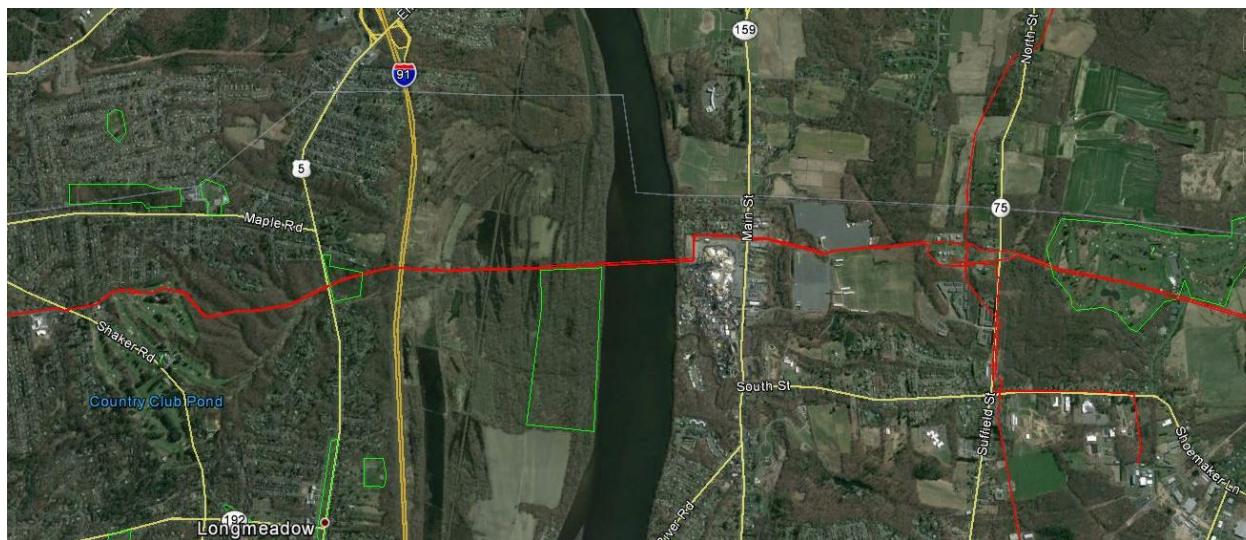


# Merrimack River



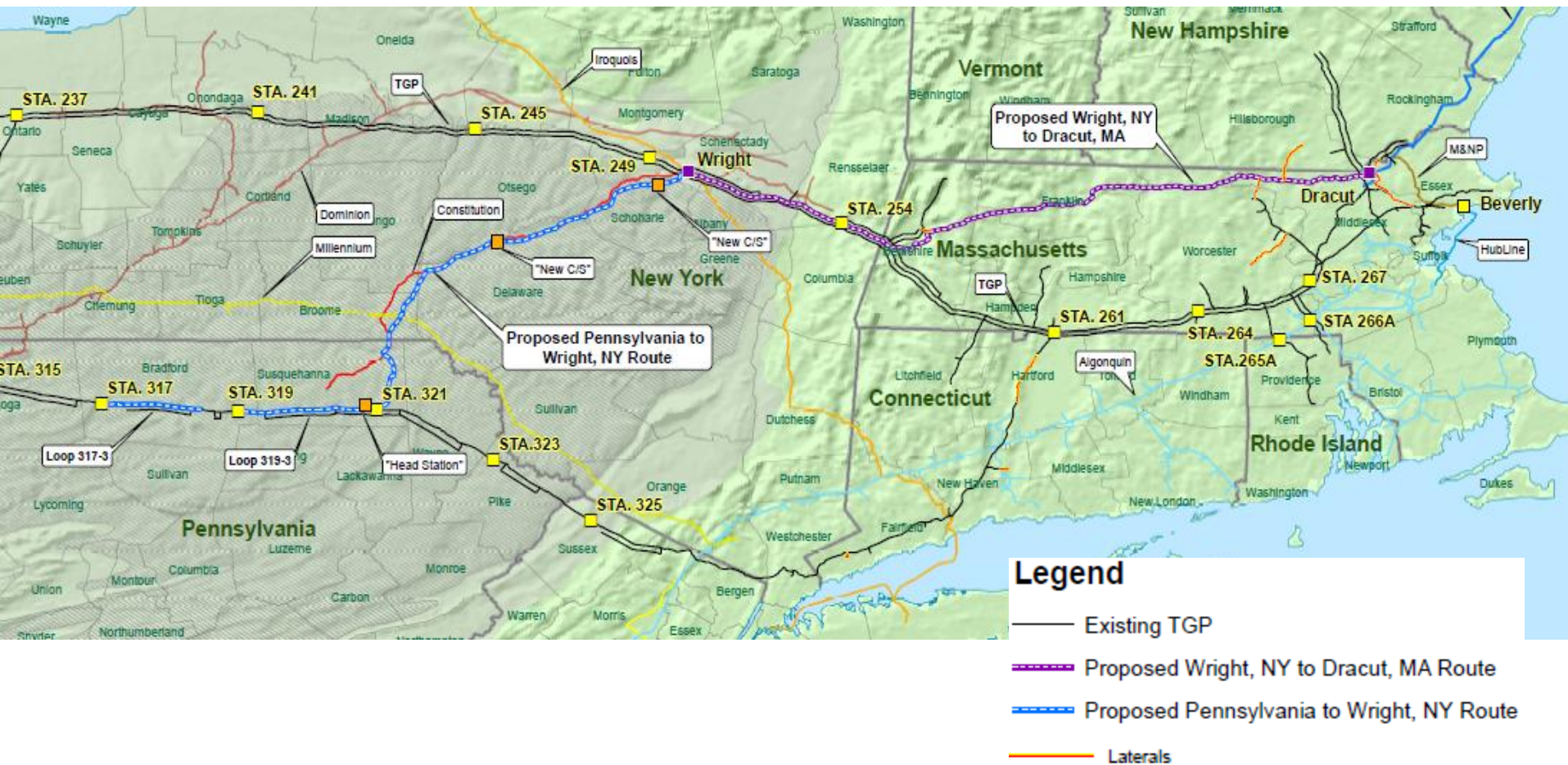


# Connecticut River





# Northeast Energy Direct Project



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